MORGAN STATE UNIVERSITY
DIVISION OF RESEARCH AND ECONOMIC DEVELOPMENT
OFFICE OF TECHNOLOGY TRANSFER

Executive Summary

Safety Applications for Workzones

Innovation

Morgan State University is seeking to license software that will report work zone conditions both in advance and in real-time, which will allow the company to provide better visibility on lane/road closures and activities in those zones. This capability surpasses any current capability on the market and will also enable better route planning well in advance of the actual work zone event. The U.S. Department of Transportation has released documents that define data that should be provided to depict present or future activity within the work zone area. This helps to avoid accidents, which puts exposed workers in harm's way.

Market Need

Work zones are dangerous for trucks due to sudden speed reduction, poor signage, merging with often small vehicles, and unexpected lane shifting/narrowing. While large trucks make up roughly 5% of vehicular traffic, they continue to have a disproportional involvement (33%) in fatal crashes occurring in work zones. In addition, delays caused by construction zones and other disruptions carry a significant economic and labor impact on the trucking industry, with astronomical $74.5 billion and 1.2 billion hours of trucking lost. This increased congestion emphasizes a need for more advanced mapping and route-planning technologies. Popular apps built for passenger vehicles, such as Google Maps, have no ability to incorporate scheduled work zone construction. Furthermore, traffic is rerouted on roads that trucks are prohibited and other truck specific considerations are ignored, thus a need for an app that provides this information exists.

Intellectual Property

Morgan State University has filed provisional patent applications (63/078,385 and 63/159,901) on behalf of the three inventors, and rights have been assigned to MSU.

Stage of Development

The software has been built to accommodate work zone parameters as specified by the USDOT. That portion can be made functional outside of a development environment and readily integrated into a truck application, and it can be delivered as an independent standalone app that details work zone activity.

Technology Transfer Opportunity

The base addressable market for an initial product, priced at $50, e.g., for Class 8 trucks alone, would be almost $150 million. However, this number would grow as the product extends to added capabilities and integrated solutions; if pricing included added capabilities and is delivered through a subscription model, at $240/truck/year, the market then grows to $700 million or so. Extending offerings to other classes of trucks will grow the market beyond the $700 million figure.

Key Investigators:
Dr. Mansoureh Jeihani

Field(s) of Use:
-Transportation
-Software engineering

Key Words:
-Trucks
-Traffic
-Application

Advantages:
-Accommodate work zone parameters using DOT criteria
-Real time and in advance data
-Geared towards commercial vehicles

Status:
-Seeking to license technology

Links:
Innovator Bio

Reference Number:
100/2020

Tech Transfer Contact:
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